Revision exercises

Exercise 01:

1. What statement is true about the TCP/IP model and the OSI model?
  a. OSI Layer 7 and the TCP/IP application layer provide identical functions.
  b. The first 3 layers of the OSI model generally describe services that are also provided by the internet layer
  c. The TCP/IP transport layer and Layer 4 of the OSI model provide similar services and functions.
  d. The TCP/IP network access layer has functions similar to the OSI physical and data link layers.

2. Why does the receiving pc check the start and end fields of the frame?
  a. Compare the Media Type Between the Transmitter and Receiver Ends
  b. Verify the Physical Layer Protocol Information
  c. Control transmission errors
  d. Verify that the frame destination matches the MAC address of the receiving PC
  e. Delineate the size of the IP datagram

3. When should a unit use the services of a router?
  a. The IP address of a destination is in another remote network.
  b. The unit is a workstation without a local hard drive.
  c. The source needs the MAC address of a destination in another network.
  d. The unit must send a broadcast message

4. What metrics are used during the routing process?
  a. Communication support
  b. The number of hops
  c. Network congestion
  d. The type of data sent
  e. The recipient's IP addresses

5. What is the information in a routing table?
  a. MAC addresses
  b. The number of hops
  c. The number of computers to the destination
  d. The type of data sent
  e. The recipient's IP addresses.

6. What is the purpose of the routing process?
  a. Encapsulating the data that is used to communicate over a network.
  b. Provide secure internet file transfer
  c. Forward traffic based on MAC addresses
  d. Forward traffic based on port numbers
  e. Select the paths used to direct traffic to destination networks

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7. Which Internet Layer Packet Header Field Does Not Change During Its Transmission?
   a. The destination MAC address
   b. Destination logic address
   c. The source physical address
   d. The source port

8. Why does the receiving device check the transport layer header?
   a. Verify the username to which the message is sent
   b. Find the right application that will receive the message
   c. Verify the network layer protocol information
   d. Verify that the frame destination matches the IP address of the receiving PC
   e. Delimit the size of a frame

9. What is the correct order of PDU encapsulation?
   a. Transport Header, Frame Header, Network Header, Application Header, **Data**, Frame Trailler
   b. Frame Header, Network Header, Transport Header, Application Header, **Data**, Frame Trailler
   c. Application Header, Transport Header, Network Header, Frame Header, **Data**, Frame Trailler
   d. Network Header, Frame Header, Transport Header, Application Header, **Data**, Frame Trailler

10. Which of the following TCP IP layers are implemented on interconnecting devices?
   a. Transport
   b. Internet IP
   c. Ethernet
   d. Application

<u>Exercise 02</u>:

Let be the following MAC addresses

   a. 01-00-5E-AB-CD-EF
   b. 11-52-AB-9B-DC-12
   c. 00–01–4B-B4-A2-EF
   d. 00-00-25-47-EF-CD

1. Can these addresses belong to the source address field of an Ethernet frame?

2. A computer in a given network communicates with a specific group of computers. What kind of communication is?
   a. Broadcast
   b. Multicast
   c. Diffusion
   d. Unicast
   e. 3 tiers

3. What statement is true about MAC addresses?
   a. MAC addresses are implemented by the network layer
   b. The first three bytes are used to uniquely identify a manufacturer or organization
   c. A network adapter only needs a MAC address if it is connected to a wireless
   d. The last part of the address is a serial number.

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    e. When changing the network, you have to change your MAC address

3. What type of packet is used to send a message to all machines on a network?
    a. Une diffusion FF FF
    b. A multicast
    c. A frame control sequence (FCS)
    d. A broadcast

4. What expressions are true about MAC addresses?
    a. A MAC address is encoded in 48 bits.
    b. A MAC address is a logical address.
    c. ICANN is responsible for assigning MAC addresses.
    d. The first three bytes are used to uniquely identify the manufacturer of the network adapter.
    e. When a machine changes its network card, it will have a different MAC address.